CLAIMS

1. A speech recognition apparatus comprising a store of data containing entries to be identified and information defining for each entry a connection with a word of a first set of words and a connection with a word of a second set of words;

speech recognition means; and control means operable:

(a) so to control the speech recognition means as to identify by reference to recognition information for the first set of words as many words of the first set as meet a predetermined criterion of similarity to first received voice signals;

(b) upon such identification, to compile a list of all words of the second set which are defined as connected with entries defined as connected also with the identified word(s) of the first set; and

(c) so to control the speech recognition means as to identify by reference to recognition information for the second set of words one or more words of the list which resemble(s) second received voice signals.

2. A speech recognition apparatus according to Claim 1, in which the speech recognition means is operable upon receipt of the first voice signal to generate for each identified word a measure of similarity with the first voice signal, and the control means is operable to generate for each word of the list a measure obtained from the measure(s) for the relevant word(s) of the first set, and the speech recognition means is operable upon receipt of the second voice signal to perform the identification of one or more words of the list in accordance with a recognition process weighted in dependence on the measures generated for the words of the list.

3. A speech recognition apparatus according to Claim 2 in which the control means is operable to weight the measure for each word of the list by a factor dependent on the number of words of the second set which are defined as connected with entries defined as connected also with the relevant identified word of the first set.

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4.   A speech recognition apparatus according to Claim 2 or 3 in which the control means is operable to omit from the list those words of the second set having a measure below a threshold.

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5.   A speech recognition apparatus according to ~~any preceding claim~~ *Claim 1* in which the apparatus includes a store containing recognition data for all words of the second set and the control means is operable following the compilation of the list and before recognition of the word(s) of the list to mark in the recognition data store those items of data therein which correspond to the words not in the list or those which correspond to words which are in the list, whereby the recognition means may ignore all words so marked or, respectively, not marked.

6.   A speech recognition apparatus according to claim 1, ~~2, 3 or 4~~ in which the control means is operable following the compilation of the list to generate recognition data for each word of the list.

7.   A speech recognition apparatus according to ~~any one of the preceding claims~~ *Claim 1* in which the control means is operable to select for output that entry or entries defined as connected both with an identified word(s) of the first set and an identified word of the second set.

8.   A speech recognition apparatus according to ~~any one of the preceding claims~~ *Claim 1* in which the store of data also contains information defining for each entry a connection with a word of a third set of words, and the control means is operable:

        (d)   to compile a list of all words of the third set which are defined as connected with entries each of which is also defined as connected both with an identified word of the first set and an identified word of the second set; and

        (e) so to control the speech recognition means as to identify by reference to recognition information for the third set of words one or more words of the list which resemble(s) third received voice signals.

9.   A speech recognition apparatus according to ~~any one of the preceding claims~~ _Claim 1_ including means to store at least one of the received voice signals, the apparatus being arranged to perform an additional recognition process in which the control means is operable:

5   (a)   so to control the speech recognition means as to identify by reference to recognition information for one set of words (other than the first set) a plurality of words of that set which meet a predetermined criterion of similarity to the respective received voice signals;

         (b)   to compile an additional list of all words of another set which are
10   defined as connected with entries defined as connected also with the identified words of the one set; and

         (c) so to control the speech recognition means as to identify by reference to recognition information for the other set of words one or more words of the said additional list which resemble(s) the respective received voice signals.

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10.   A speech recognition apparatus according to Claim 9 including means to recognise a failure condition and to initiate the said additional recognition process only in the event of such failure being recognised.

20   11.   A speech recognition apparatus according to ~~any one of the preceding claims~~ _Claim 1_, further comprising a telephone line connection; and means responsive to receipt via the telephone line connection of signals indicating the origin or destination of a telephone call to access stored information identifying a subset of at least one of the said sets of words and to restrict to that subset the operation
25   of the speech recognition means for that set.

12.   A telephone information apparatus comprising a telephone line connection; a speech recogniser for recognising spoken words received via the telephone line connection, by reference to recognition data representing a set of possible
30   utterances; and means responsive to receipt via the telephone line connection of signals indicating the origin or destination of a telephone call to access stored information identifying a subset of the set of utterances and to restrict the recogniser operation to that subset.

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13.   Apparatus according to Claim 12, in which the apparatus includes a store containing recognition data for all words of the set and the control means is operable to mark in the recognition data store those items of data therein which
5   correspond to the words not in the subset or those which correspond to words which are in the subset, whereby the recognition means may ignore all words so marked or, respectively, not marked.

14.   Apparatus according to Claim 12, in which the control means is operable
10   to generate recognition data for each word of the subset.

15.   A telephone apparatus comprising a telephone line connection; a speech recogniser for determining or verifying the identity of the speaker of spoken words received via the telephone line connection, by reference to recognition data
15   corresponding to a set of possible speakers; and means responsive to receipt via the telephone line connection of signals indicating the origin or destination of a telephone call to access stored information identifying a subset of the set of speakers and to restrict the recogniser operation to that subset.

20   16.   A telephone information apparatus comprising a telephone line connection; a speech recogniser for recognising spoken words received via the telephone line connection, by reference to one of a plurality of stored sets of recognition data; and means responsive to receipt via the telephone line connection of signals indicating the origin or destination of a telephone call to access stored information
25   identifying one of the sets of recognition data and to supply this set to the recogniser.

17.   A telephone information apparatus according to Claim 16 in which the stored sets correspond to different languages or regional accents.
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18.   A telephone information apparatus according to Claim 16 in which at least two of the sets correspond to the characteristics of different types of telephone apparatus.

19.   A telephone information apparatus according to Claim 18 in which one of the sets corresponds to the characteristics of a mobile telephone channel.

5   20.   A speech recognition apparatus comprising:

a store defining a first set of words;

a store defining a second set of words;

a store containing entries to be identified;

a store containing information relating each entry to a word of the first set

10   and to a word of the second set;

speech recognition means operable upon receipt of a first voice signal to identify as many words of the first set as meet a predetermined recognition criterion;

means to generate a list of all words of the second set which are related

15   to an entry to which the identified word(s) of the first set is also related; and

speech recognition means operable upon receipt of a second voice signal to identify one or more words of the list.

21.   A recognition apparatus comprising:

20   a store defining a first set of patterns;

a store defining a second set of patterns;

a store containing entries to be identified;

a store containing information relating each entry to a pattern of the first set and to a pattern of the second set;

25   recognition means operable upon receipt of a first input pattern signal to identify as many patterns of the first set as meet a predetermined recognition criterion;

means to generate a list of all patterns of the second set which are related to an entry to which an identified pattern(s) of the first set is also related; and

30   recognition means operable upon receipt of a second input pattern signal to identify one or more patterns of the list.

22.   A speech recognition apparatus comprising:

(i) a store of data containing entries to be identified and information defining for each entry a connection with a signal of a first set of signals and a connection with a word of a second set of words;

(ii) means for identifying a received signal as corresponding to as many of 5 the first set as meet a predetermined criterion;

(iii) control means operable to compile a list of all words of the second set which are defined as connected with entries defined as connected also with the identified signal(s) of the first set; and

(iv) speech recognition means operable to identify by reference to 10 recognition information for the second set of words one or more words of the list which resemble(s) received voice signals.

23.   A speech recognition apparatus according to Claim 22 in which the first set of signals are voice signals representing spelled versions of the words of the 15 second set or portions thereof and the identifying means are formed by the speech recognition means operating by reference to recognition information for the said spelled voice signals.

24.   A speech recognition apparatus according to Claim 22 in which the first 20 set of signals are signals consisting of tones and the identifying means is a tone recogniser.

25.   A speech recognition apparatus according to Claim 22 in which the first set of signals are signals indicating the origin or destination of the received signal.

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26.   A method of identifying entries in a store of data by reference to stored information defining connections between entries and words, comprising:

(a) identifying one or more of the said words as present in received voice signals;

30   (b) compiling a list of those of the said words defined as connected with entries defined as connected also with the identified word(s);

(c) identifying one or more of the words of the list as present in the received voice signals.

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27.   A speech recognition apparatus comprising:

a) a store of data containing entries to be identified and information defining for each entry a connection with at least two words;

5   b) a speech recognition means able to identify by reference to stored recognition information for a defined set of words at least one word or word sequence which meets some predefined criterion of similarity to a received voice signal;

(c) a control means operable:

10   i)   to compile a list of words which are defined as connected with entries defined as connected with a word previously identified by the speech recognition means; and

ii)   so to control the speech recognition means as to identify by reference to recognition information for the compiled list one or more words or 15 word sequences which resemble a further received voice signal.

28.   A method of speech recognition by reference to a stored set of words to be recognised, comprising

(a)   receiving a speech signal;

20   (b)   storing the speech signal;

(c)   receiving a second signal;

(d)   compiling a list of words, being a subset of the set of words, as a function of the second signal;

(e)   applying to the stored speech signal a speech recognition process so 25 as to identify by reference to the list one or more words of the subset.

29.   A method according to Claim 28 in which the second signal is also a speech signal.

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30.   A method according to Claim 29 including the step of recognising the second signal by reference to recognition data representing a letter or sequence of letters of the alphabet.

31.   A method according to Claim 28 in which the second signal is a signal consisting of tones generated by a keypad.

5   32.   A method according to Claim 28 in which the second signal indicates the origin or destination of the second signal.

33.   A method of speech recognition comprising:

(a)   receiving a speech signal;

10   (b)   storing the speech signal;

(c)   performing a recognition operation on the speech signal or some other signal;

(d)   in the event of the recognition operation failing to meet a predetermined criterion of reliability, retrieving the stored speech signal and

15 performing a recognition operation thereon.